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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,989	10/15/2001	Masaru Ogata	862.C2412	9562

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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,989

Applicant(s)

OGATA, MASARU

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed 2/20/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 3, 5-6, 10 and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Miyaji et al (U.S.Pat. 5,559,584).

With respect to claims 1, 3, 5-6 and 10, Miyaji et al discloses an exposure apparatus for exposing a pattern formed on a mask onto a substrate and comprising all structures set forth in the instant claims including: a projection optical system (PL); a first and second vessels for providing gas into the illumination system (IL) and projection optical system, a gas supply device and exhausting system and controller for adjusting the pressure inside the first and second vessels (see fig.1 of Miyaji).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al (U.S.Pat. 6,341,006) in view of Tanimoto (U.S.Pat. 4,690,528).

5. With regard to claims 1-7, 10 and 15 Murayama et al (fig.1) discloses an exposure apparatus comprising all substantially all structures of the instant claims such as: a projection optical system (12) for projecting a predetermined pattern formed on a reticle onto a substrate, a first vessel for providing first gas into the illumination system and a second vessel gas for providing a second gas into the projection optical system where the first gas and second gas include inert gas (nitrogen, helium) or air, or ozone (see col.10, lines 50 thru col.11, line 2), and gas supply systems (10, 101, 102), a gas replacement section (see fig.1), a main controller (8) for controlling the vacuum pumps for evacuating gas and controlling the interior pressures of the first and second vessels and the flow rate of the gas vessels at a predetermined pressure (see col.15, line 65 through col.16, line 2). This provides a clear evidence that at the time the invention was made, there existed device which comprises vessels for hermetically sealing the illumination system, the projection optical system, means for supplying the vessels with inert gas to a predetermined pressure, a vacuum source for evacuating the interior of the vessels to establish negative pressure and controller for controlling the interior pressures of the vessels at a desired pressure. Murayama does not expressly disclose "a pressure valve". Tanimoto et al

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teaches an exposure apparatus having “a pressure valve” (129, 439, 470) for controlling a chamber pressure to a determined value (see col.8, lines 32-39). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a pressure valve as taught by Tanimoto into the exposure device of Muarayma for preventing a differential pressure between the internal pressure of the vessel and atmospheric pressure at a predetermined value as intended by Muarayma.

6. Claims 1-7, 10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suenaga et al (U.S.Pat. 6,451,507) in view of Tanimoto (U.S.Pat. 4,690,528).

Regarding claims 1-7, 10, and 15, Suenaga et al discloses an exposure apparatus for exposing a pattern formed on mask onto a substrate and comprising substantially all of the limitations of the instant claims including: first and second gas supply devices having an inlet and an outlet (156-205) for supplying first gas and second gas such as ozone or inert gas into the illumination system and projection optical system via first and second vessels (see col.13 line 4 thru col.15, line 7), an exhaust device for replacing and evacuating the first vessel and second vessel, and main controller (7) for controlling the pressure in the interior of the first vessel and second vessel and the flow rate of the gas supply devices to determined values (see fig.4 of Suenaga; col.18, line 64 thru col.19, line 39). Suenaga lacks to show “a pressure valve”. Tanimoto et al teaches an exposure apparatus having “a pressure valve” (129, 439, 470) for controlling a chamber pressure to a determined value (see col.8, lines 32-39). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ “a pressure valve” as taught by Tanimoto into the exposure device of Suenaga for preventing a

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differential pressure between the internal pressure of the vessel and atmospheric pressure at a predetermined value.

7. Claims 8-9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al (U.S.Pat. 6,341,006) in view of Tanimoto (U.S.Pat. 4,690,528) and further in view of Umatate et al (U.S.Pat. 5,243,377).

With respect to claims 8-9, and 11-14, Murayama et al as modified by Tanimoto discloses an exposure apparatus comprising substantially all of the limitations of the instant claims as discussed except for the exposure apparatus being communicated via a computer network such as a LAN or Internet. However, this in itself does not provide any inventive steps. For example, Umatate et al discloses a plural exposure apparatus and a host management system (H-COM), a network interface, a computer and the information relating to each of the exposure apparatuses can be communicated by a computer network (see fig.1 of Umatate et al). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Murayama as modified by Tanimoto with Umatate to obtain the invention as specified in claims 8-9 and 11-14. It would have been obvious to a skilled artisan to utilize a computer network as taught by Umatate for the exposure apparatus of Murayama et al as modified by Tanimoto for remotely and automatically managing, analyzing, troubleshooting and maintenance the exposure apparatus.

Response to Amendment/Arguments

8. Applicant's amendments filed February 20, 2003 have been entered. Claims 1-8, 10, 12-14 have been amended. New claim 15 has been added. Turning to the prior art rejection, applicant's arguments have been carefully reviewed but they are not found to be persuasive. Regarding the 35 U.S.C. 102(b) rejection under the art of Miyaji, applicant argues that Miyaji does not suggest the use of a pressure valve for preventing a differential pressure between an internal pressure of the vessel and atmospheric pressure from exceeding a predetermined value as amended. The Examiner respectfully disagrees with the applicant. Miyaji meets the limitations as claimed since Miyaji teaches pressure valves, for example, V1, V2 and V6 for keeping the internal pressures of the vessels and the atmospheric pressure at a desired value (see col.6, lines 52-57 and col.8, lines 50-55). There are no differences whatsoever between the valves of Miyaji and the "pressure valve" as recited in the instant claims. With respect to the rejections under the references of Murayama, Suenaga and Umatate, applicant's arguments have been carefully considered but have been traversed in view of new grounds of rejection as set forth above.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

hvn
May 1, 2003


HENRY HUNG NGUYEN
PRIMARY EXAMINER